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Early Childhood Systems Building Resource Guide:
Program Evaluation and Continuous Quality Improvement

CHILD CARE
State Capacity Building Center

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This guide provides an overview of key purposes, concepts, and tools of evaluation and continuous quality improvement (CQI) and shows why evaluation and CQI are valuable tools for state leaders. Included are state examples that illustrate how evaluation and CQI are important tools that, when linked to strategy, can build better connections between data, decisions, and actions.

This guide is designed to help states and territories understand more about evaluation and CQI. It is intended for early childhood leaders who are not evaluators, such as state CCDF Administrators and their partners. The guide introduces a range of evaluation and CQI approaches and practices that reflect the richness of these fields. It also provides an overview of additional resources for deeper exploration, including how-to manuals and other instruction materials.

Technical Assistance in Systems Building for State Leaders

Technical assistance to support systems building, including strategic planning, is available through the State Capacity Building Center and may be available through other federal technical assistance centers. Please check with your State Systems Specialist for more information.

Why Evaluate Programs?

Early childhood programs that serve the needs of the public face continual changes brought on by social, political, and economic forces. To navigate these changes, and to improve services and outcomes for children, state organizations may seek to evaluate their programs. Listed below are four common reasons state leaders seek to evaluate state programs:[1]

- **Assessment of merit and worth** to review a program's merit and value to society so that funders, policymakers, and communities know what it does and how it benefits participants
- **Program and organizational improvement** to enhance the organization and its services through continuous quality improvement by identifying weaknesses as well as strengths
- **Oversight and compliance** to ensure a program follows mandates and is faithful to the intervention model
- **Field knowledge and development** to build knowledge and expertise about what does and does not work for the benefit of the field and future programs

Despite these important purposes and benefits, program leaders and staff may be hesitant to evaluate their programs. Their reluctance can be related to costs of evaluation, their past experiences with evaluation, or insufficient understanding of the evaluation process.

Common Concerns about Evaluation and Considerations for Addressing Them

Concern 1. Evaluation diverts resources away from the program and therefore harms participants. This is a common concern in most programs.

- **Addressing the concern:** Because evaluation helps determine what does and does not work in a program, it actually helps program participants. Without an evaluation, there is little or no evidence that services actually work.

Concern 2. Evaluation increases the burden for program staff and takes their eyes off the main purpose of the program. Program staff are often responsible for collecting evaluation information because they are most familiar with and have the most contact with program participants.

- **Addressing the concern:** Despite this potential for increased burden, staff can benefit greatly from evaluation because it provides information that can help them improve their work with participants, learn more about program and participant needs, and validate their successes.
- **Addressing the concern:** The burden can be decreased somewhat by incorporating evaluation activities into ongoing program activities.

Concern 3. Evaluation is too complicated. Program managers often reject the idea of conducting an evaluation because they don't know how to do it or whom to ask for help.

- **Addressing the concern:** Although the technical aspects of evaluation can be complex, the evaluation process itself simply systematizes what most program managers already do—that is, figuring out whether the program's objectives are being met, which aspects of the program work, and which ones are not effective.
- **Addressing the concern:** Understanding this general process will help program leaders and staff be full partners in the evaluation, even when outside evaluators help with the technical aspects.

Concern 4. Evaluation may produce negative results and lead to information that will make the program look bad or lose funding.

- **Addressing the concern:** An evaluation may reveal problems in accomplishing the work of the program as well as successes. It is important to understand that both types of information are significant. The discovery of problems should not be viewed as evidence of program failure but rather as an opportunity to learn and improve the program. Information about problems and successes not only helps the program being evaluated but also helps other programs learn and improve.
- **Addressing the concern:** When evaluation results are used for accountability purposes, it is especially important that the evaluation be carefully planned and executed.

Concern 5. Evaluation is just another form of exposure monitoring. Program leaders and staff can view program evaluation as a way for funders to monitor programs to find out whether staff are doing what they are supposed to be doing.

- **Addressing the concern:** The purpose of the evaluation needs to be decided and articulated from the beginning, so decision-makers, funders, and program staff are on the same page about why it is being done. There can be an overlap of information collected throughout regular program implementation and the evaluation. However, defining the purpose of the evaluation can help differentiate processes and answer questions.[2]

Guiding Principles for Preparing for a Successful Evaluation

As a state leader or program staffer, you can maximize the benefits of evaluation by following a few basic guidelines:

- **Invest heavily in planning:** Invest time and effort in deciding what you want to learn from your evaluation. This is the most important step in the process. Consider what is most important to discover about your program and its impact on participants, and use this information to guide your evaluation planning.

- **Integrate the evaluation into the program's ongoing activities:** Evaluation is not something that an outsider does to a program after it is over or an activity tacked on merely to please funders. Program leaders and staff can gain knowledge and improve practice from an evaluation more quickly when it is integrated into the program.

- **Ensure that leadership participates in the evaluation, and show program staff that it is highly valuable work:** An evaluation needs the participation of leadership to succeed. Even if an outside evaluator is hired to conduct the evaluation, leadership must be full partners in the evaluation process. An outside evaluator or in-house expert cannot do it alone. Leadership can outline the program's big-picture vision, objectives, and key participants for the evaluator. Also, program leads and staff will value the evaluation if leadership values it. Talk about the evaluation with leads and staff individually and in meetings. If you hire an outside evaluator to conduct the evaluation, be sure that this individual attends staff meetings and gives presentations on the status of the evaluation. Leadership involvement will encourage a sense of ownership of and responsibility for the evaluation among program staff.

- **Involve as many program leads and staff as possible, as much and as early as possible:** Project staff have a considerable stake in the success of the evaluation, and involving them early in the process will enhance the evaluation's effectiveness. Staff will have questions and issues that the evaluation can address and are usually pleased when the evaluation validates their own hunches about what does and does not work in the program. Because of their experience and expertise, program staff can ensure that the evaluation questions, design, and methodology are appropriate for the program's participants. Further, early involvement of staff will promote their willingness to participate in data collection and other evaluation-related tasks.

- **Engage partners, communities, and stakeholders in evaluation planning and implementation:**[3] Engage partners, communities, and those who have a stake or vested interest in the evaluation findings. Stakeholders may include the intended users who can most directly benefit from the evaluation, as well as others who have a direct or indirect interest in program implementation. Engaging stakeholders in the evaluation enhances intended users' understanding and acceptance of the usefulness of evaluation information. Stakeholders are much more likely to buy into and support the evaluation if they are involved in the evaluation process from the beginning. Work with the people who will be using evaluation information throughout the entire process so that the information collected, analyzed, and reported best meets their needs.

- **Be realistic about the burden on leadership and staff:** Evaluations are work. Even if your evaluation calls for an outside evaluator to do most of the data collection, it takes time to arrange for the evaluator to have access to records, administer questionnaires, or conduct interviews. It is common for agencies and evaluators to underestimate how much additional effort this involves. When program leads and staff brainstorm about the questions they want answered, they often produce a very long list. This process can result in an evaluation that is too complicated. Focus on the main purpose of the evaluation and key questions that it should address.

- **Be aware of ethical and cultural issues:** This guideline is very important. When evaluating a program that provides services or training, you must always consider the responsibilities to the participants and the community. You must ensure that the evaluation is relevant to and respectful of the cultural backgrounds and individuality of participants. Evaluation instruments and methods of data collection must also be culturally sensitive and appropriate for your participants. Participants must be informed that they are taking part in an evaluation and that they have the right to refuse to participate in this activity without jeopardizing their participation in the program. Also, ensure that confidentiality of participant information will be maintained. Knowing when to use an Institutional Review Board is also important. This is an administrative body established to protect the rights and welfare of human research subjects who are recruited to participate in research activities that are conducted under the sponsorship of the institution with which it is affiliated.

What Is a Program Evaluation?

Program managers and staff frequently assess their program's effectiveness informally: Are participants benefiting from the program? Are there sufficient numbers of participants? Are strategies for recruiting participants working? Are participants satisfied with the services or training? Do staff have the skills needed to provide the services or training? These are all questions that program managers and staff ask and answer on a routine basis.

Evaluation considers these same basic questions but through a systematic method for collecting, analyzing, and using information—and for ensuring that its answers are supported by evidence. This does not mean that conducting an evaluation requires no technical knowledge or experience, nor does it mean that evaluation is beyond the understanding of program leads and staff.

What Are the Basic Questions an Evaluation Can Answer?

There are different purposes for program evaluations and many questions they can answer; thus, there are different types of evaluations and different terms to describe them. Evaluation experts can help you navigate choosing an evaluation purpose and which type of evaluation best serves that purpose.[4]

The important thing to know is that program evaluation questions are powerful tools for state leaders to track progress and identify why programs are succeeding or failing and what changes might be necessary in the future. These questions can yield compelling information and data for systems and organizational decision-making as well as efforts to solve problems. Here are some examples of general questions evaluation processes can answer:[5]

- What is the program trying to achieve?

- How is the program progressing?

- Have desired results been achieved?

- Why were results achieved or not achieved?

- What linkages exist between the program intervention and outcomes?

- What unintended effects have resulted? How do programs need to change?

The answers to these types of questions are often categorized by the terms qualitative and quantitative, which describe the data that are collected during an evaluation. For example, an evaluation may involve collecting both quantitative and qualitative information about program and participant outcomes, or it may collect only one type of data. The types of data collected depend on the purpose of the evaluation and the type of evaluation chosen. Here are a few examples of what can be done with quantitative and qualitative data:

- Quantitative data
  - Information and data that can be counted or expressed numerically
  - Information and data that can be represented visually in graphs, histograms, tables, and charts
- Qualitative data
  - Information and data that can be arranged into descriptive categories that are not numerical
  - Information and data that can be represented by themes and enhanced with quotes

How Much Will an Evaluation Cost?

Evaluations require money. Money spent on evaluation is an investment in your program and its participants. Do not think of money spent on evaluation as a diversion of funds that could be available for participants. Evaluation is essential if you want to know whether your program is benefiting participants.

It is challenging to specify exactly how much your evaluation will cost because of considerable variation in evaluation purpose and type. Some of these varying factors may include what aspects of your program you decide to evaluate, the size of the program (that is, the number of staff members, participants, components, and services), the number of outcomes you want to assess, who conducts the evaluation, and your agency's available evaluation-related resources. Costs also vary depending on economic differences in communities and geographic locations.

Sometimes funders establish a specific amount of grant money to be set aside for an evaluation. As a rule of thumb, estimated costs should range from 15 to 20 percent of the total funds allocated for the program. If the amount of money to be set aside for an evaluation is not specified by a funding agency, you may want to talk with other state leaders or partners in your community who have conducted evaluations. They may be able to help you estimate evaluation costs.

Here are some general guidelines to help you think about what information you may be able to get at different evaluation cost levels:

- **Lowest-cost evaluations:** If you spend only a minimal amount of money, you will be able to obtain numerical counts of participants, services, or products and information about participant characteristics. You also may be able to find out how satisfied participants are with services or training. However, this is only the foundation for an evaluation. This information will not tell you whether you have been successful in attaining your participant-outcome objectives. Also, at this cost level, you will not have the in-depth information about program implementation and operations needed to understand whether your program was implemented as intended and, if not, what changes were made and why they were made.

- **Low-moderate-cost evaluations:** If you increase your evaluation budget slightly, you will be able to assess whether there has been a change in your participants' knowledge, attitudes, or behaviors and collect in-depth information about your program's implementation. However, this is only the framework of an evaluation. At this cost level, you may not be able to attribute participant changes specifically to your program because you will not have similar information on a comparison or control group.

- **Moderate-high-cost evaluations:** Adding more money to your evaluation budget will allow you to use a comparison or control group and therefore attribute any changes in participants to the program itself. At this cost level, however, your information on participant outcomes may be limited to short-term changes—that is, those that occurred during or immediately after participation in the program.

- **Highest-cost evaluations:** At the highest cost level, you will be able to obtain all the information available from the other cost options as well as longer-term outcome information on program participants. The high cost of this type of evaluation is due to the necessity of tracking or contacting program participants after they have left the program. Although follow-up activities are often expensive, longer-term outcome information is important because it assesses whether the changes in knowledge, attitudes, or behaviors that your participants experienced initially are maintained over time.

As you increase your evaluation budget, you gain a corresponding increase in knowledge about your success in attaining program objectives. In many situations, the lowest-cost evaluations may not be worth the expense, and, realistically, the highest-cost evaluations may be beyond the scope of most agencies' financial resources. As a general rule, the more money you are willing to invest in an evaluation, the more useful the information obtained about your program's effectiveness will be, and the more useful these results will be in helping you advocate for your program.[6]

Who Should Lead and Execute Your Evaluation?

One decision that must be made before you begin your evaluation is who will conduct it. Evaluation is best thought of as a team effort. Although one individual heads the team and has primary responsibility for the project, this person will need aid and cooperation from others. You may tap into evaluation professionals within your agency or hire a contractor to develop the evaluation, but you should not expect this professional to implement it alone. The evaluation lead will need guidance and support from other agency and program experts in determining the focus and design of the evaluation, developing the evaluation plan, constructing data-collection instruments, collecting the evaluation data, analyzing and interpreting the data, and preparing evaluation reports. Possible options to lead your evaluation include the following:

▪ **An outside evaluator** (who may be an individual, research institute, or consulting firm) who serves as the team leader and is supported by in-house staff

▪ **An in-house evaluator** who serves as the team leader and is supported by program staff and possibly an outside consultant

▪ **An in-house evaluator** who serves as the team leader and is supported by program staff only[7]

A Note of Caution

Evaluation designs and results can be based on a set of assumptions and biases about how to do evaluation, which may reflect the perspective of the evaluation lead or program staff. These assumptions and biases can shape evaluation planning, making it difficult at times to see questions and issues that may be missing. For example, conventional research methods don't tell us everything about how and why programs work, for whom they work, and in what circumstances. Additionally, they don't adequately answer other process and implementation questions. Given the increasing complexity of addressing social problems, educating young children, and other situations we face today, it's important to focus on which questions to pursue and what assumptions are guiding them.

Ensure that you have a clear understanding of the evaluator's biases and assumptions about evaluation theory and practices. The evaluator should also be able to easily identify appropriate evaluation methods and approaches based on the purpose of the evaluation you want to conduct.

Responsibilities of the Evaluation Leads

Once you decide how to proceed with finding an evaluation expert—either internally or externally—the lead can take on a number of responsibilities. Here is a list of possible responsibilities to consider for your evaluation lead:

- Develop an evaluation plan with the program lead and staff that identifies:
  - Intermediate outcomes and indicators
  - Tools used to measure those outcomes and indicators
  - Activities involved in collecting data
  - Staff who will be responsible
  - Frequency and timeframes for collecting data and assessing outcomes

- Train project staff. Training topics could include using evaluation instruments, data collection activities, participant or case selection for sampling purposes, and other activities.

- Design data collection instruments, or select standardized instruments or inventories.

- Implement procedures for data collection activities, such as:
  - Interviewing project staff
  - Interviewing program participants
  - Conducting focus groups
  - Observing service-delivery activities
  - Reviewing participant case records

- Develop a database, or determine how to adapt current data systems.

- Code, enter, and clean data.

- Analyze data.

- Establish and oversee procedures ensuring confidentiality during all phases of the evaluation.

- Prepare, revise, and present an evaluation report (paper, PowerPoint, and so forth).[8]

Evaluation Tools to Guide Outcome-Based Thinking and Decision-Making

Over the past decade, "outcomes" has gone from a buzzword in the nonprofit, government, and foundation worlds to a full-fledged movement. As the outcomes movement and outcome-based decision-making have grown, many models and frameworks for applying this thinking have emerged.

Though evaluators and practitioners have benefited greatly from the development of various tools to guide outcomes thinking, understanding the unique advantages of each model and how to select the right one can be challenging. Responding to this challenge, the Rensselaerville Institute for Outcomes published *Outcome Frameworks: An Overview for Practitioners* in 2004. This book offers insights into which model tool might be appropriate for the particular needs of a program at a given time. The tools described in *Outcome Frameworks* fall into three main categories:

- **Program planning and management:** Program planning and management tools are outcome models that support an effort's proposal, funding, and implementation phases. They illustrate the logic, theory of change, and anticipated flow of an intervention, providing markers against which both incremental and ultimate progress may be measured.

- **Program and resource alignment:** Program and resource alignment tools ensure that resources and efforts are expended in support of organizational goals.

- **Program reporting:** Program reporting tools allow organizations to capture and communicate the fullness of the results they have achieved.

The matrix below provides an overview of major outcome-based tools in use, with information about which one might be appropriate to the particular needs of a program at a given time and how they may be used in an evaluation. Understanding the unique advantages of each tool and what it is well-suited for will help state leaders and evaluators determine which tool to use in evaluations.

Table 1. Overview of Evaluation Tools for State and Territory Leaders[a]

Program Planning and Management

Logic Model: diagram representation of a program showing what it is supposed to do, with whom, and why

Key Concepts	Strong Points	Uses
Inputs, outputs, outcomes; arrows show relationships between elements in the model	Easy to use; provides an easily understood representation of a program's theory of change	Program overview; presentations; program and evaluation planning

Outcome funding framework: key management focus on achieving specific, sequential results for customers of services; emphasis on results, not activity

Key Concepts	Strong Points	Uses
Investor return, results, customers, milestones, performance targets, outcome statements	Highly disciplined approach that serves both program investors and implementers; web-based software has strengthened usability	Government and philanthropic grantmaking; program and organization management

Results-based accountability: real-time approach that describes what desired results look like, defines results in measurable terms, and uses measures to drive action plans for improvement

Key Concepts	Strong Points	Uses
Results, experience, indicators, baselines, strategy, action plan and budget, accountability	Thorough system for planning community-change efforts and improvements in program, agency, or system performance; uses lay language; provides direct link to budgeting; useful for integrating different outcome systems	Project planning and start-up; development of community report cards; program and agency improvement plans and budgets; grantmaking and evaluation design

Targeting outcomes of programs: tracking progress toward achievement of targets; evaluating degree to which programs impact targeted conditions

Key Concepts	Strong Points	Uses
Knowledge, attitude, skills, aspiration; process, outcome, and impact evaluation	Fairly easy to use; helps integrate program development and evaluation; implementers and managers can use same concepts	Program design and evaluation

Collective-impact evaluation:[b] not focused on assessing programmatic impact but on complex initiatives working in complex environments where progress is not linear or predictable

Key Concepts	Strong Points	Uses
Nine propositions to help evaluators navigate the unique characteristics of complex systems, improve their practice, and serve the social sector	Seeks to understand and describe the whole system; focuses attention on context and being responsive to changes as they occur	Evaluating systems initiatives and complex, multifaceted efforts

Program and Resource Alignment

Balanced scorecard: business-based model designed to provide integrated management and accounting for multiple variables impacting organization performance by connecting them to a set of performance indicators

Key Concepts	Strong Points	Uses
Strategy, alignment, short- and long-term objectives, financial and nonfinancial measures, lagging and leading indicators, performance measures and drivers, internal and external signs of success	Allows for a graphic assessment of the degree to which an organization's resources and efforts support its goals	Monitoring either a single program with several associated initiatives or multiple programs within an organization; analyzing alignment of resources and initiatives to strategic targets

Program Reporting

Scales and ladders: graphic tool that centers around a series of scales and their placement within a matrix designed to illustrate progress along a continuum of stages

Key Concepts	Strong Points	Uses
Scales; mutually exclusive, multiple, and floating indicators	Places a client, community, or program on a continuum; shows incremental and relative progress, stabilization, or decline; individual data together tell a complete story; behaviorally anchored description of levels of change	Demonstrating aggregate progress; measuring concepts that are not easily quantified

Results mapping: outcome-based evaluation tool designed to systematically capture otherwise non-quantifiable anecdotal evidence

Key Concepts	Strong Points	Uses
Causal and synchronistic attribution; levels and milestones	Way to systemize, standardize, gather, and use lessons embedded in anecdotal information	Turning anecdotal information into a useful tool for program presentation, evaluation, and assessment

Program results story: uses stories to capture organizations' achievements and present them in a results-based format

Key Concepts	Strong Points	Uses
Results, stories, anecdotal evidence	Easily understood approach for presenting results; brings outcomes to human-interest level; captures and conveys richness of information	Presenting program and results to multiple audiences

[a] Penna, R., M, & Phillips, W. (2005). Eight outcome models. The Evaluation Exchange, 11(2), p. 5. Retrieved from https://www.alnap.org/system/files/content/resource/files/main/evaluation-exchange.pdf

[b] Preskill, H., & Gopal, S. (2014). Evaluating complexity: Propositions for improving practice. Boston, MA: FSG.

Learning from Data and Creating a Culture of Quality Improvement[9]

What Is Continuous Quality Improvement?

Continuous quality improvement is a process to ensure that programs are systematically and intentionally improving services and increasing positive outcomes for the participants they serve. CQI is a cyclical, data-driven process that is proactive, not reactive. It is an iterative, ongoing process that is defined differently in different disciplines and fields of practice. However, generally speaking, CQI involves the following components:

- **Plan:** establishing a plan with benchmarks, timelines, assigned tasks, and responsibilities to improve
- **Do:** identifying, describing, and analyzing strengths and weaknesses
- **Study:** testing and implementing solutions
- **Act:** evaluating the results and revising the plan

The CQI Plan-Do-Study-Act (PDSA) cycle is illustrated below, and more information can be found in chapter 6 of the Systems Building Resource Guide, which discusses the role of CQI in program planning and implementation. Our focus in this guide is the use of data within the CQI cycle. CQI is most effective when it becomes a natural part of the way everyday work is done.
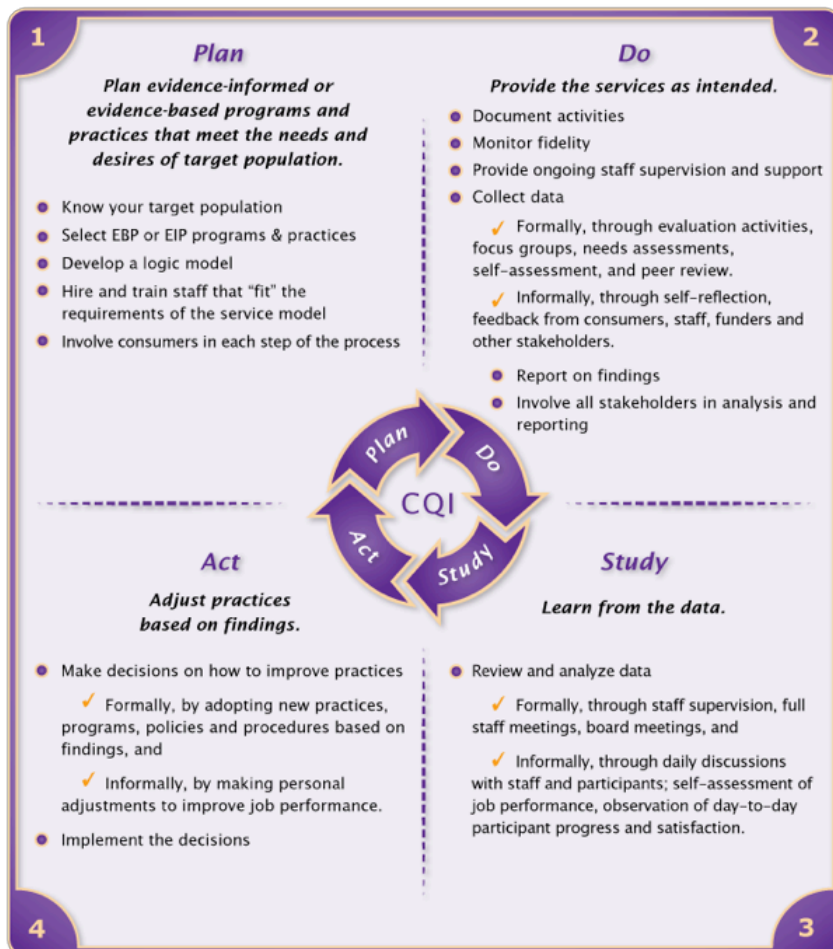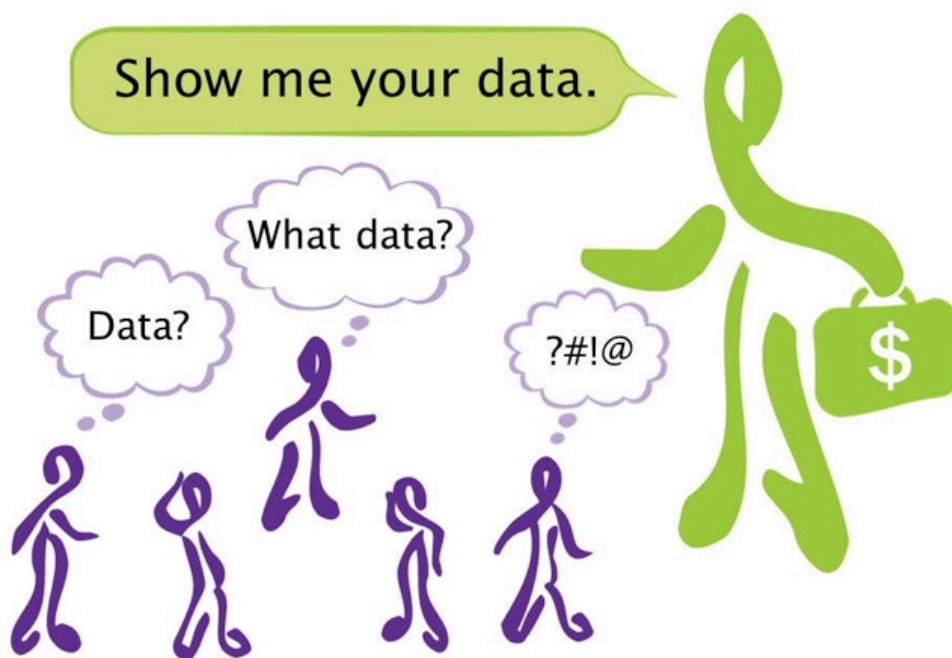

Source: FRIENDS National Resource Center. (n.d.). Continuous quality improvement [Web page]. Retrieved from https://friendsnrcelearning.remote-learner.net/course/index.php?categoryid=8

Note: EBP stands for evidence-based practices and programs; EIP is evidence-informed practices.

Using Data for Change

At the heart of CQI is gathering and analyzing information and data about the program or intervention you're evaluating. This analysis can help you understand the effectiveness of what you're doing and how you can maintain and improve that effectiveness. A CQI environment is one in which data is collected and used to make positive changes—even when things are going well—rather than waiting for something to go wrong and then fixing it.[10]

Source: FRIENDS National Resource Center (2015). Data in the real world: Planning, implementing, and learning from evaluation [PowerPoint slides]. Retrieved from an Evaluation 101: What and Why presentation in N.J. Currently unavailable on website.

More and more innovators and agents for change are recognizing the importance of data when trying to solve messy, complex problems. At the same time, access to data, along with the number of collection methods and tools, continues to grow at a staggering pace. We all use data in our everyday decision-making in one way or another, so the question is how we can better use these data to create meaningful change.

Data can supplement intuition with new perspectives and information to help confirm a problem exists, discover new aspects of a problem, advocate for a problem to be solved, and surface and vet potential solutions. Decision-making can be more strategic when supported with high-quality data that help state leaders direct resources to where the greatest impact is possible.

You don't need to be a full-fledged evaluator or researcher to use data in decision-making. Using a CQI process, asking the right questions, being thoughtful about the data-gathering process, and acting on the answers are all powerful tools for catalyzing change. There are resources and guides to walk you through how to ask the right questions and find answers, interpret and present your data, and—finally—apply what you've learned.

Once you've gained knowledge by collecting and analyzing information, it's time to start the process again. Use what you've learned to continue to evaluate what you do by collecting and analyzing data, and continually improve your program. For more information, see the Resources section on CQI and data toolkits.[11]

Applying an Equity Lens

Recent census figures show that 45 percent of young children from birth to age four in the United States are children of color.[12] The diversity of young children will continue to grow. Additionally, one in five children today is learning both English and another language simultaneously.[13] Designing an early childhood system that is responsive to the needs of all children is key to these children's—and the nation's—future. Opportunity gaps exist along the lines of income, race and ethnicity, language, and culture; these gaps may be characterized by significant differences in the following:

- Opportunities for children to enter kindergarten ready to achieve their full potential.

- The extent to which families are able to participate or choose to participate in formal services, particularly health services preschool programs, and other formal care arrangements.

- The extent to which leaders and staff are prepared to support or assess young children who are culturally and linguistically diverse.

- The extent to which leaders and staff reflect the diversity of the children and families they serve.

- The extent to which diverse stakeholders are authentically engaged in planning and decision-making.

Keeping these realities front and center and applying an equity lens are necessary for collecting data on young children and their families. What you collect, how you analyze and disaggregate the data, and how you present the data all affect how decisions are made. The right data allow for a focus on eliminating disparities and supporting solutions so that all people have the opportunity to reach their full potential. Inequities exist because of myriad systemic social, economic, and environmental factors, and these factors should constantly be brought forth through the data processes. When you make decisions about what data are important, you create the opportunity to surface and highlight inequities.

Conversely, you may hide inequities by using data that cannot be parsed in a way to explore differences by groups, communities, or neighborhoods.

By applying an equity lens to data gathering and dissemination, you can help identify, assess, and reflect on a solution's actual or potential impact on communities with different needs within their unique social context. Using an equity lens creates opportunities to mitigate negative impacts, enhance positive impacts, and prioritize solutions for populations most in need.

To apply an equity lens, ask which people, geographic areas, or other groups have historically been most affected by the problem; what social, economic, and environmental data could be overlaid; and where resources are currently dedicated. All of this should help define your approach and prioritize practices and decisions. Creating urgency and direction through a clear, data-centered approach, identifying disparities, and highlighting the right data will help allocate the right resources to the people and places that need it most.

History and Funding of Data and Data Systems in Early Childhood

Education and early learning are important issues across the nation. Specifically, policymakers are focused on education reforms and reforms that aim to close the school-readiness and achievement gaps. We know from data and research that differences in children's abilities appear as early as the first year of life, and research has shown that targeted interventions during early childhood can narrow the school-readiness gap.

With closing the gaps in mind, increased attention has been paid at the local, state, and federal levels to the systematic collection and use of data to improve outcomes for children and students from preschool through higher education. Some of this attention has come from federal and state funding sources to help states with the development and implementation of longitudinal data systems that are connected, coordinated, and focused on a range of age groups.[14]

Connecting Data and Data Systems to Improve Effectiveness and Inform Decisions

Though research has shown that program quality and staff training are linked to educational outcomes for young children, data about programs, early childhood education (ECE) professionals, and children themselves are not connected. Policymakers, program administrators, ECE professionals, and parents need connected, timely, and accurate data to make informed decisions and to evaluate how to help children succeed when they enter school and beyond.

Comprehensive and connected data (and systems) on children, programs, and the workforce can be used to track progress over time, pinpoint problems, identify underserved groups, and allocate limited resources.

Effective use of data systems will also help states evaluate and improve the following:

- **Program quality:** State and local program managers will receive timely and accurate ongoing feedback on the performance of programs in relation to their quality standards and will be able to identify and adapt strategies and practices from the highest-performing providers to improve all programs across the state.
- **ECE workforce quality:** Higher education institutions, state legislators, and other leaders will have information on supply of and demand for ECE staff members; a comprehensive picture of professional development opportunities and investments; and an understanding of how well these supports are working to attract, retain, and develop an ECE workforce that can help parents prepare every young child for success in school and life.
- **Access to high-quality programs:** Policymakers and advocates will have a detailed picture of how the quality of services is distributed across neighborhoods, communities, and regions of their states; they will also see the distribution of accessible data systems that answer questions about, for example, the availability of high-quality programs for infants and toddlers or young English-language learners.
- **Child outcomes:** ECE professionals will draw from rich, cumulative information on children's strengths and progress in all areas of their development and use this information to plan and adjust curricula, learning experiences, and family engagement efforts.

Ten Fundamentals of Coordinated State Early Childhood Data Systems

States provide a variety of early childhood programs and interventions. However, these are often administered independently of each other and are not well coordinated. The result is that information on children's early care and education experiences before kindergarten is siloed and uncoordinated, making it difficult for agency leaders and policymakers to target resources. In consultation with an early childhood data advisory group, and with feedback from early childhood stakeholder groups, the Early Childhood Data Collaborative developed a framework that:

- Articulates principles for developing state ECE data systems that enable continuous improvement and answer states' critical policy questions
- Identifies ten ECE fundamentals that provide the foundation for coordinated ECE data systems
- Provides guidance to state policymakers to ensure appropriate data access and use while protecting privacy and keeping data secure

The framework, provided below, is intended to help guide states as they work to transform compliance-driven data systems into coordinated, quality-improvement-driven data systems.

Table 2. 10 Fundamentals of Coordinated State ECE Data Systems

Brief state examples of the application of each of these fundamentals can be found in *A Framework for State Policymakers: Building and Using Coordinated State Early Care and Education Data Systems*, by the Early Childhood Data Collaborative.

Fundamental	Description
1. Unique statewide child identifier	A unique statewide child identifier is a single, nonduplicated number that is assigned to and remains with a child throughout participation in ECE programs and services and across key databases. The child identifier remains consistent even if the child moves or enrolls in different services within a state. A child identifier allows the state to track the progress of each child over time, throughout the early childhood years, and across programs and sites within the state to improve the coordination and provision of services.
2. Child-level demographic and program participation information	Information on child-level demographics and program participation is important to connect children and their families with appropriate services and to understand how child outcomes might relate to various characteristics. Information includes age, ethnicity, socioeconomic status, and program participation, including early intervention services for children with special needs.
3. Child-level data on development	Assessing and collecting data about young children's development requires different methods and instruments than assessing older children. State leaders need to ensure that data collected are appropriate, valid, and reliable, using scientifically sound instruments. Collecting developmental data from multiple sources and assessing multiple skills, including social-emotional, physical, cognitive, and linguistic development as well as approaches to learning over time increase the validity of the findings.
4. Ability to link child-level data with K–12 and other key data systems	Linking child-level data with K–12 and other key data systems allows policymakers to track children's progress over time as well as better understand relationships among ECE programs and other child development programs and services. For example, linked data systems can provide two-way communication between ECE programs and K–12 so that ECE programs know how children progress in K–12, and K–12 programs can tailor instruction to meet individual children's needs when they arrive at school.
5. Unique program-site identifier with the ability to link with children and the ECE workforce	States need information about program sites to understand whom they serve as well as their impact on children. A unique, statewide program-site identifier is a single, nonduplicated number that is assigned to a school, center, or home-based ECE provider. A program-site identifier allows states to link data on ECE services to a particular site and track these characteristics over time and across key databases. It also allows states to connect ECE program sites with their staff and the children they serve to better understand the relationships among the site and staff characteristics, child program participation, and child outcomes in order to inform policy decisions.
6. Program-site data on structure, quality, and work environment	Program site–level information about ECE programs includes data on program structure, quality, and work environment characteristics, including ECE workforce information. Examples of structural data include location; ages of children served; length and duration of the programs offered at the site; funding sources; and availability of special services such as parent participation, mental health consultation, or health services. Examples of program quality data include national accreditation information, child-adult classroom ratios, curriculum, and staff-child interaction measures. Examples of work environment characteristics include the availability of professional development opportunities for staff, wages and benefits, and turnover.

Fundamental	Description
7. Unique ECE workforce identifier with ability to link with program sites and children	Coordinated state ECE data systems that include a unique ECE-workforce identifier help states better understand information about the adults caring for children. A unique ECE-workforce identifier is a single, nonduplicated number that is assigned to individual members of the ECE workforce consistently across program sites and links across key databases. This workforce includes teachers, assistant teachers, aides, master teachers, educational coordinators and directors, and other individuals who care for and educate young children. A unique ECE-workforce identifier allows states to track workforce characteristics over time and connect the workforce to the ECE programs in which they work and the children they serve. The result will be a better understanding of relationships among the ECE workforce, program-site characteristics, quality of services, and child outcomes.
8. Individual ECE workforce demographics, including education and professional development information	Demographics, education, and professional development data are important to improve understanding of the ways ECE workforce characteristics affect ECE services and child outcomes. These data include race and ethnicity, gender, age, educational attainment, experience in the field, retention, and compensation. Data on professional development and training programs are also important, including information on the focus of the program content and delivery, funding sources, financial aid, and monetary rewards for educational attainment. Demographic, education, and professional development data on ECE workforce characteristics allow states to understand who is caring for their youngest children and which children have access to different types of teachers and caregivers.
9. State governance body to manage data collection and use	In many states, ECE programs are governed by multiple state agencies, so establishing a governance body that oversees data collection and use is imperative. The governance body establishes the vision, goals, and strategic plan for building, linking, and using data to support continuous improvement. It also sets policies to guide data collection, access, and use to ensure that requested data elements are clearly defined, with common data definitions and standards as well as clear rules on data entry and reporting. These policies also ensure that state data collection and record retention policies, statements, and laws are followed, and members of the governance body include program administrators and legislative and executive-level advisors who understand the meaning behind the data and how they will be used, rather than solely information technology or data managers.
10. Transparent privacy protection and security practices and policies	As state policymakers build coordinated ECE data systems, states must have transparent policies and statements that articulate how they ensure the security of data and the privacy and confidentiality of personally identifiable information. These policies and statements should address important issues including who has access to what data (especially identifiable data), how the information is used and linked, justification for the collection of specific data elements, and how long states retain the information. Coordinating these conversations with the state governance body (see fundamental 9) ensures the privacy, security, and quality of state ECE data systems while allowing appropriate data collection, retention, storage, access, and use.

Resources

Compendium of Measures of Quality

Quality in Early Childhood Care and Education Settings: A Compendium of Measures (2nd ed.) (Mirjam Neunning, Debra Weinstein, Tamara Halle, Laurie Martin, Kathryn Tout, Laura Wandner, … Mary Burkhauser, 2010)
This compendium was prepared by Child Trends for the Office of Planning, Research and Evaluation of the Administration for Children and Families to provide uniform information about quality measures and a consistent framework with which to review existing measures of the quality of early care and education settings.

Data and Data Systems Resources

"About CLASP" (Center for Law and Social Policy, n.d.)
The CLASP DataFinder is a custom, easy-to-use tool developed to provide select demographic information as well as administrative data on programs that affect low-income people and families.

"Frequently Asked Questions on the Statewide Longitudinal Data Systems (SLDS) Grant Program" (National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, n.d.)
This website has information and resources on the Statewide Longitudinal Data Systems (SLDS) Grant Program, which helps states make better decisions by requiring improved data and information. Through grants and a growing range of services and resources, the program helps propel the successful design, development, implementation, and expansion of K–12 and P–20W (prekindergarten through workforce) longitudinal data systems.

KIDS COUNT Data Center (Annie E. Casey Foundation, n.d.)
A project of the Annie E. Casey Foundation, KIDS COUNT is the premier source for data on child and family wellbeing in the United States. Users can access hundreds of indicators, download data, and create reports and graphics that support smart decisions about children and families.

"Using Qualitative Data in Program Evaluation: Telling the Story of a Prevention Program" (FRIENDS National Resource Center for Community-Based Child Abuse Prevention, 2009)
This guide was developed for program administrators, managers, direct-service practitioners, and others expanding and enhancing current and future evaluation efforts using qualitative methods.

Outcome-Based Evaluation Tools

"Evaluation Toolkit" (FRIENDS National Center for Community-Based Child Abuse Prevention, n.d.)
The FRIENDS Evaluation Toolkit is a resource for developing an individualized outcome evaluation plan from the ground up. It is an online compendium of information and resources. The toolkit is not intended to take the place of hands-on training or technical assistance; rather, it is intended to serve as an entry-level guide for programs to help build evaluation capacity.

ORS Impact (ORS Impact, n.d.)
Since 1989, ORS Impact has been delivering outcome-based knowledge, understanding, and application to public and private organizations to pursue the change they seek and to improve their communities' health, well-being, and prospects to flourish. Through this website, ORS Impact shares insights, resources, and publications with a view to building capacity for evaluation and outcome-based thinking and acting in organizations doing good work around the world.

W.K. Kellogg Foundation Logic Model Development Guide (W.K. Kellogg Foundation, updated 2004)
This guide focuses on the development and use of the program logic model. Logic models and their processes facilitate thinking, planning, and communication about program objectives and actual accomplishments. Through this guide, the W.K. Kellogg Foundation provides an orientation to the underlying principles and language of the program logic model so that it can be effectively used in program planning, implementation, and dissemination of results. The premise behind this guide is simple: good evaluation reflects clear thinking and responsible program management.

Resources for Evaluating Systems Initiatives and Complexity

A Framework for Evaluating Systems Initiatives (Julia Coffman, 2007)
This paper introduces a framework to help advance the discussion about evaluating systems initiatives. The framework helps clarify what complex systems initiatives are doing and aiming to accomplish and thereby supports both initiative theory-of-change development and evaluation planning. Because this paper grew out of a symposium focused on early childhood, concepts presented throughout are illustrated with examples from that field. The framework and ideas presented also apply, however, to systems initiatives in other fields.

"An Introduction to Context and Its Role in Evaluation Practice" (Jody L. Fitzpatrick, 2012)
This publication reviews the evaluation literature on context and discusses the two areas in which context has been more carefully considered by evaluators: 1) the culture of program participants when their culture is different from the predominant one, and 2) the cultural norms of program participants in countries outside the West. We have learned much—and should continue learning—about how the culture of participants or communities can affect evaluation. Evaluators also need to expand their consideration of context to include the program itself and its setting as well as the political norms of audiences, decisionmakers, and other stakeholders of the program.

"Putting the System Back into Systems Change: A Framework for Understanding and Changing Organizational and Community Systems" (Pennie G. Foster-Fishman, Branda Nowell, and Huilan Yang, 2007)
This paper provides one framework—grounded in systems thinking and change literatures—for understanding and identifying fundamental system parts and interdependencies that can help explain system functioning and leverage systems change. The proposed framework highlights the importance of attending to the deep and apparent structures within a system as well as interactions and interdependencies among system parts. This includes attending to the value of engaging critical stakeholders in problem definition, boundary construction, and systems analysis.

The *"Most Significant Change"* (MSC) Technique: A Guide to Its Use (Rick Davies, and Jess Dart, 2005)
This publication is aimed at organizations, community groups, students, and academics who wish to use the MSC technique to help monitor and evaluate their social-change programs and projects or to learn more about how it can be used. The technique is applicable in many different sectors, including education and health. It is also applicable to many different cultural contexts. MSC has been used by a range of organizations in various diverse communities and countries.

"Unique Methods in Advocacy Evaluation" (Julia Coffman, and Ehren Reed, 2009)
There are systematic approaches for gathering qualitative and quantitative data that can be used to determine whether a program or strategy is making progress or achieving its intended results. Evaluations draw on a familiar list of traditional data collection methods, such as surveys, interviews, focus groups, or polling. However, some early childhood programs, policies, and initiative processes can be complex, fast-paced, and dynamic, which can make data collection a challenge. This brief describes four new methods that were developed to respond to unique measurement challenges in the early childhood field.

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13. See endnote 12.